C程式設計題

命題者 ZZY

題目名稱(中文/英文) Computes the average and standard deviation

主要測試觀念： 算式計算

Basics	Functions
■ C++ BASICS 1	□ SEPARATE COMPILATION AND NAMESPACES
□ FLOW OF CONTROL	□ STREAMS AND FILE I/O
■ FUNCTION BASICS	□ RECURSION
□ PARAMETERS AND OVERLOADING	□ INHERITANCE
□ ARRAYS	□ POLYMORPHISM AND VIRTUAL FUNCTIONS
□ STRUCTURES AND CLASSES	□ TEMPLATES
□ CONSTRUCTORS AND OTHER TOOLS	□ LINKED DATA STRUCTURES
□ OPERATOR OVERLOADING, FRIENDS,AND REFERENCES	□ EXCEPTION HANDLING
□ STRINGS	□ STANDARD TEMPLATE LIBRARY
■ POINTERS AND DYNAMIC ARRAYS	□ PATTERNS AND UML

題目說明： Write a function that computes the average and standard deviation of input scores. The standard deviation is defined to be the square root of the average of the input values:

(- m, where m is the average of the input scores , i= 1, …, n.

Note that the number of input scores should be dynamic.

輸入說明 The first input is n, others are , where i = 1 to n.

輸出說明 Output the Average and Standard deviation, separated by a tab.

IO範例：

	Sample Input	Sample Output
第一組測資與輸出	5 1 2 3 4 5	Average:3　　Standard deviation:1.41421
第二組	6 1 2 3 4 5 6	Average:3.5　　Standard deviation:1.70783
第三組	7 7 7 7 7 7 7 7	Average:7　　Standard deviation:0
…		

附屬資料：

☑解答程式　ComputeStandardDeviation.cpp(檔名)

☑測試資料　input.txt, output.txt

■ 易，僅需用到基礎程式設計語法與結構

□ 中，需用到多項程式設計語法與結構

□ 難，需用到多項程式結構或較為複雜之資料型態或結構

解題時間：15分鐘。

其他註記：